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## Fostering agroecological transition in Rwanda through social learning and farmers' participation

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## Abstract

Agroecological transitions in Sub-Saharan Africa depend not only on technical agronomic knowledge, but also on farmers' awareness of their right to participate in shaping agricultural development. Advisory services play a crucial role by facilitating social learning, strengthening farmer participation, and supporting knowledge co-creation. This study investigates how Rwanda's Agricultural Advisory Services (AAS) can support agroecological transitions by embedding participatory and context-specific approaches.

Using a mixed-methods approach, including literature review, focus group discussions with farmers, and interviews with advisors, this research identifies the strengths and limitations of current advisory methods. Findings show that farmers strongly prefer collective learning environments, especially farmer-to-farmer advisory and demonstration. These advisory methods foster co-learning and align with agroecological principles of local knowledge, knowledge co-creation, and bottom-up transformation. Peer-led advisory enhances relevance and trust, while sharing success stories encourages social learning, making advisory services more demand-driven and contextually appropriate.

Digital tools such as Short Message Services, radio, Interactive Voice Response, Unstructured Supplementary Service Data, and videos are increasingly integrated into Rwanda's AAS landscape. While these technologies have strong potential to scale knowledge quickly and broadly, their effectiveness depends on participatory content development and farmers' digital literacy. These prerequisites highlight the need for government-led reforms of national extension services that involve farmers in designing advisory content and receiving training on how to engage with digital communication tools.

This study argues that advisory methods for agroecological transition should combine group-based learning models with inclusive digital tools. Farmer groups can serve as platforms for co-creating knowledge, and this co-created knowledge—including success stories and locally adapted practices—can be disseminated through digital channels to reinforce broader social learning.

Further research is recommended to explore farmers' motivation for sharing knowledge and participating in content co-design. By adopting a farmer-centred perspective and focusing on the social dimensions of advisory systems, this study offers practical insights for supporting inclusive and participatory agroecological transitions in Rwanda.

Keywords: Agricultural extension, agroecology, digital extension, farmer participation, Rwanda

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